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DEVELOPMENT OF JOB SATISFACTION SCALE FOR FEMALE LIBRARY PROFESSIONALS: CASE STUDY

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ABSTRACT

It has been observed that there are no standard scales for measuring the job satisfaction of female library professionals. A scale would prove to be an excellent tool for developing policies for female library professionals. A questionnaire is prepared, which is further tested for reliability and validity, considered a standard scale. A survey method is used to collect the data for this purpose. The study suggests that job satisfaction variables are not unidirectional in their effect. The job itself can be a source of both satisfaction and dissatisfaction. The scale has good internal consistency. The scale has good internal consistency ($\alpha=0.645/0.938$) and response variability (0.5838). The scale can be used to measure the job satisfaction of female library professionals with the following parameters, i.e., the status of female library professionals, participation of women library profession, factors affecting their professional advancement and motivation. The present scale is also helpful in education, sociology, economics, history, psychology, science, etc. The study's findings may also be beneficial for policymakers towards forming policies for female library professionals. The study is an original work conducted by the authors. The scale developed can also be used in other areas to measure job satisfaction of female professionals with slight modification.

Keywords

Job Satisfaction, Female library professionals, Occupational characteristics, Status evaluation, Job Satisfaction scale. Librarianship

1. Introduction

Traditionally, in the eastern world, women are occupied with household chores and caring for family members. Towards fulfilling these social responsibilities, women often get involved in low-paid tasks such as petty trade, handicrafts, subsistence farming and

casual labour. Hence, they often get associated with low-status jobs, which become disadvantageous when it comes to their empowerment. Therefore, men continue to be the primary decision-makers. Even though women actively participate in various professions without neglecting the traditional role of homemakers, acute stress is felt for women to become economically independent due to socio-economic changes. As a result, there is a sharp increase in women's participation in almost all professions. However, the social circumstances and the prevailing conservative attitude have created a conflict between their twin roles (work and family) of their life, in the eastern world in particular. The twin roles are not only affecting their working status but also their satisfaction level.

A large number of female library professionals are working all over the world in various places and positions. Nevertheless, unfortunately, there are only a few libraries that female librarians lead. It is mainly because household affairs overcome their professional life. However, there is no shortage of talented female professionals in librarianship. There have been very few studies that accounted for the status, standard and satisfaction among female library professionals. This may be because female library professionals were never considered separately from their male counterparts. There had never been a different policy framework for female library professionals in the field of librarians. However, a generic approach of treating female professionals, followed elsewhere, is also continued in librarianship. The professional expectations and needs of female professionals, in general, might differ across professions and accordingly, the policies should be framed in different professions. Separate studies (considering job characteristics) must be conducted to judge female professionals' professional status and satisfaction level across professions. The current inventory has been prepared to benchmark the status and level of satisfaction among female library professionals in librarianship.

2. Review of literature

The Occupational Characteristics, Status Evaluation, Job Satisfaction and Job satisfaction of Women are the four factors reviewed for considering the existing literature.

2.1. Occupational characteristics

As mentioned earlier, an essential variable under investigation is job characteristics. The job characteristics can be designed to match the individual needs, personality characteristics and expectations associated with the job. The issue of job design is of specific importance because the way jobs are structured, designed, and controlled directly impacts employees' performance, job involvement, and job satisfaction. **Majanja and Kiplang (2003)** investigated the status and occupational characteristics of women librarians in Kenya. The findings indicated that most women librarians in Kenya had adequate qualifications but held lower positions than their male counterparts and still specialised in cataloguing, circulation, and children's work. **Amekuedee and Adanu (2006)** investigated the status, career advancement opportunities, inhibiting development and occupational characteristics of thirty-five

(35) professional women librarians in Ghana. The findings reveal that women librarians in Ghana could advance to any height without discrimination. **Franek and Vecera (2008)** examined the relationships between job satisfaction and personal characteristics in their study. The study correlated job satisfaction and individuals with a higher level of education and suggested that professionals with a higher level of education were more satisfied in the job than workers with a lower level of education. **Hill (2011)** studied in higher education that the environment influenced occupational satisfaction and the dispositional variables explored for occupational satisfaction in general. **Yu and Kuo (2017)** examine the pay gap between mothers and non-mothers varies by occupational characteristics. The result shows that in jobs with more autonomy and fewer teamwork criteria, the wage reduction for each child is minor. The results support the model's emphasis on job strain and work-family conflict, demonstrating the value of improving working conditions to reduce work-family friction.

2.2. Status Evaluation

The word "status" is sometimes used as a synonym for prestige or honour and sometimes with loose implication to denote the power, authority, rights and obligations associated with prestige (**Gould and William, 1964**).

Samantaray (1996) studied in few University Libraries of Eastern India, comparing status and job satisfaction of the women library professionals. The study further suggested that the faculty status for academic librarians has roots in the development of education. **Majanja and Kiplang (2003)** investigated the current status and occupational characteristics of women librarians in Kenya. They conclude that Kenyan women librarians' status has consistently been lower than that of men's in terms of position, salary and other remuneration. They recommend that Kenyan women librarians need to be more assertive in the job seeking and negotiating for higher pay and should be encouraged to venture into IT-related positions. **Marasinghe and Wijayarathne (2018)** examined the influence of gender on job satisfaction among university library professionals in Sri Lanka. They considered five parameters, namely, work, co-workers, compensation, promotion and supervision. The findings show that the overall job satisfaction of both male and female university library professionals was equal.

2.3. Job Satisfaction

Job satisfaction is a function of the degree to which one's personal needs are fulfilled in his/her job. It is an employee's feeling about his/her pay, work, promotional opportunities, co-workers, and supervisor. Whether an employee's job satisfaction affects his/her performance is still open to question, but the traditional notion that a happy worker or that a productive worker is a happy worker has appealing face validity (**Vaughn and Dunn, 1974**).

McCormick, Catherine A. (2000) examined the relationship between three job attitudes: job satisfaction, organisational commitment, and career commitment and career adaptability, among employed members of the library and information science profession from Virginia and Maryland U.S.A. **Conklin and Desselle (2007)** developed a multidimensional scale to measure the satisfaction among pharmacy faculty members. They created a scale with 36 checkpoints with consistency and reliability to develop a standard scale. In library and information science, such an approach was never adopted to establish a standard scale. **Eliason (2006)** identified categories associated with job satisfaction: enjoyment of the outdoors, independence, job diversity/variety, and meeting people. The majority of conservation officers found their work very satisfying. It was suggested to generalised the findings that future research should include quantitative measures that could specify how additional factors such as age, years of service, rank, and education affect job satisfaction. **Boles et al. (2007)** examined the relationships between various facets of the salesperson and their job satisfaction based on organisational commitment. Study results indicate that various aspects of job satisfaction are more strongly related to organisational commitment. **Lim (2007)** examines the characteristics of information technology (I.T.) library workers using a mail survey. The I.T. workers showed a moderate level of belonging towards library services for users, job autonomy, and job satisfaction. **Boer et al. (2008)** investigated a relationship between perceived teacher ownership and job satisfaction among school teachers against factors including age, gender, subject, experience and type of school. The results indicated a strong and positive relationship between perceived teacher ownership and job satisfaction.

Williamson et al. (2008) investigated whether academic reference librarians, archivists, cataloguers, distance education librarians, public librarians, records managers, school librarians, special collections librarians, and system librarians differ in personality traits. The study found that distinct personality traits are associated with the different types of librarians. **Patillo et al. (2009)** studied the level of autonomy among the managers of public and academic libraries and other employees of L.I.S. professionals. The variables used to define the broad areas of responsibilities are administration, access and collections, information services, education and research, digital information technology and web access, and information technology and consultation. Findings indicated that there are significant differences in perceived autonomy based on areas of responsibility. Administrators and information technology librarians reported higher autonomy, regardless of the type of library. Also, public librarians have less freedom in scheduling their time than academic librarians. Autonomy to work can be a significant source of job satisfaction. **Sabharwal and Corley (2009)** presented a comparative study of job satisfaction rates of faculty members employed in research institutions, with particular attention paid to differences across gender and disciplines. The study suggested that faculty satisfaction, retention, and persistence are increasingly crucial for university administrators and policymakers. **Hart (2010)** conducted a job satisfaction survey at South African

university library through interviews/questionnaires. The survey found a love-hate relationship between library workers and their work. **Chauhan (2010)** studied the relation between library professionals and their job satisfaction against age, gender, subject, experience. This study recorded employees' feelings over several dimensions of his job, namely the nature of work, pay, promotion, supervision, co-workers, opportunities for professional development, reading community, the security of the job, working conditions, general policies and administration. **David and Damilola (2017)** concluded that job satisfaction has a significant impact on the effectiveness of library officers in institutions. Their findings indicate that having a positive mindset improves the efficiency and quantity of library officers' performance.

The available literature reveals that there has been considerable work on job satisfaction in other professions, but the same cannot be said for the library science field. In India, a few studies have been reported in recent years. Nevertheless, the literature related to job satisfaction in library science does reflect the concern of the library professionals.

2.4. Job satisfaction of Women

The level of job satisfaction is the same for male and female professionals working in the university libraries in India (**Navlani, 1990**).

Geigner and Crow (2003) opine that satisfaction in one's job is likely to influence career choice. This study compares women's satisfaction in a professional computing career to a more traditionally female career - elementary school teacher. **Kuhns, Bragg and Blahna(2004)**, in a study of urban forestry/arboriculture professionals in the United States, found that satisfaction with the urban forestry profession was high and differed little among white males, females, and minorities. Satisfaction was higher for upper management, those with higher income, and those who entered the profession for enjoyment rather than income potential. **Chiu (1998)**, in studies of gender differences and job satisfaction, reviewed over 30 studies inferior in terms of pay, autonomy, and promotional opportunity. He stated that the findings are inconsistent. Some studies report that women have higher job satisfaction, some studies find that men are more satisfied, and others find no significant difference. **Aguilar and Vlosky (2008)** compared levels of job satisfaction among male and female cooperative extension workers in the United States. There is a high level of job satisfaction among cooperative extension workers, and there is no statistically significant difference between males and females. However, when modelling job satisfaction as a function of (1) Control/Autonomy/Influence, (2) Challenge, (3) Performance Measures, the study found differences between males and females. **Karimi (2009)** examined gender differences concerning work-family interference and perceived job satisfaction in a group of Iranian employees. The female professionals often become the victim of homesickness, and work-to-family interference causes dissatisfaction in their job. **Memon and Jena (2017)** conducted a study on female employees of Indian organisations. The subscales were evaluated for psychometric properties and model fit,

and the hypotheses were checked using structural equation modelling (S.E.M.). The results confirmed the significant relationship between workplace G.I. inflicted on the women employees and their reduced satisfaction and motivational levels.

3. Objectives of the study

There have been few studies for measuring the satisfaction of female library professionals. However, it is observed that there is not a single study that attempts to establish a standard scale for the purpose. The present study attempts to fill the gap by establishing a standard scale for measuring:

1. Status of female library professionals
2. Participation of women in the library science profession
3. Factors affecting the professional advancement for women library professionals
4. The extent to which woman library professionals are motivated and have job satisfaction

4. Defining the variable

The existing literature was reviewed to decide upon parameters for job satisfaction, occupational characteristics, and questionnaire status (i.e. scale).

Chauhan (2010) investigated the parameter for job satisfaction among library professionals. The parameters of job satisfaction being the core of organisational harmony are among the essential theoretical fields of research. The present study (design of a scale) might be helpful to remove job dissatisfaction and enhance job satisfaction of the subjects (female library professionals) in particular. The multidimensional construct (or scale) is related to satisfaction with the existing rules, condition of working place, good relations with co-workers, salary, promotion, senior officers, reservation, etc. **Conklin and Desselle (2007)** developed a multidimensional scale to measure work satisfaction among pharmacy faculty members. Principal Axis Factoring and Scale Purification procedures were used to identify a plausible factor structure. Six domains of work satisfaction were identified viz. resources for scholarship, institutional support and reward, requirements for tenure and promotion, availability of a graduate program and teaching environment using responses acquired from 885 pharmacy faculty members. **Beiyao Zheng et al. (2002)** developed a scale to measure patients' trust in health insurers, including public and private insurers and indemnity and managed care. They developed a scale based on the conceptual model of insurer trust. The scale was analysed for its factor structure, internal consistency, construct validity, and other psychometric properties. Cronbach's alpha assessed internal consistency. Construct validity was established by Pearson or Spearman correlations and 't-tests'. Insurer's trust is a unidimensional construct related to trust in physicians, satisfaction with care and with the insurer, having enough choice in

selecting health insurer, no prior disputes with a health insurer, type of, and desire to remain with the insurer.

Miyakawa et al. (1998), in their study, developed a questionnaire for women and created 4 clusters for the 12 related questions, which included measures of job satisfaction, job stability, the physical load of job, and mental load of job. **Srivastava (1988)** investigated the job satisfaction inventory of job satisfaction adjustment and socio-economic status of professional women in Varanasi, India. The scale was analysed for its factor structure, internal consistency, construct validity, and other psychometric properties.

Based on the review of literature, opinions of specialists (psychologists) and the opinions of experts in the field of Library Science, the following variables were laid for psychological study.

S.No.	Variables	Empirical Measurement
1.	Occupational Characteristics	
i.	Existing rules	Structured schedule
ii.	Working place	"
iii.	General environment	"
iv.	Furniture	"
2.	Job Satisfaction	
i.	Co-workers	"
ii.	Promotional Opportunities	"
iii.	Supervision	"
iv.	Pay and other financial benefits	"
v.	Reservation	"
vi.	Working conditions	"
3.	Status evaluation	
i.	Age	Chronological age of the respondents in completed years
ii.	Education	Structured schedule
iii.	Job experience	"
iv.	Salary	"
4.	Opportunities for professional development	
i.	Membership	"
ii.	Training activities	"
iii.	Published work	"
vi.	Facilities & Resources	"

Table 1: Variables

5. Scope of the study

The present study covers the higher education institutions situated in Uttar Pradesh, India. There is 6 Central Universities, 32 State Universities, 29 Private Universities, 9 Deemed Universities, 2 Indian Institute of Technologies, 2 Indian Institute of Information Technologies, 1 National Institute of Technology, 2 All India Institute of Medical Sciences, 1 Indian Institute of Management and 19 Research Institutions. The study cover data is collected from female library professionals of these 121 academic and research institutions. A fairly good number of female library professionals work in the University library systems, whereas the technical and research institutions have fewer female library professionals. Hence, the population is ideal for experimenting with the laid objectives. The focus of the study is to test the reliability and validity of the laid scale.

5.1. Limitation of the study

The present study is restricted to the field of Library and Information Science. The study helps measure the job satisfaction of female library professionals. However, the current scale is also helpful for the female professionals working in the other fields with minor modification as per the requirement of the area. The study's findings may also be beneficial for policymakers in framing policies for female library professionals to create a better working environment for them.

6. Methodology

A systematic methodology is a key to the success of any research study as it has a direct bearing on the relevancy of research findings, especially in the case of social sciences research. It is essential to adopt some standard procedure that is designed for a particular practice. The present work is a survey-based study. The inventory has been prepared to find out the status and satisfaction of female librarians in the Library and Information Science profession. In this 'Job Satisfaction Inventory,' there are statements related to the profession. This study attempted to know if female library professionals are satisfied or not satisfied in their working environments. Also, whether they are satisfied with the existing rules, condition of working place, good relation of co-workers, promotion, salary, senior officers and reservation, etc., have been considered.

6.1. Construction of Job Satisfaction Scale

The present scale has been prepared to find out satisfaction and dissatisfaction among the female library professionals. In this job satisfaction scale, there are statements related to the profession. The present laid scale is a five-point scale based on Likert's scale. The level of job satisfaction has been categorised into five divisions, i.e. strongly satisfied, satisfied, undecided, partially satisfied, not satisfied and divisions are allotted different marks as Strongly satisfied = 5, Satisfied = 4, Undecided = 3, Partially satisfied = 2 and Not satisfied = 1. A mark obtained by an individual respondent is called a score of scale (questionnaire) and a total of scores for a respondent is called the scoreboard.

In this measurement process, data is collected and a number is assigned. Those numbers carry different meanings as presented before. Based on the number, each respondent makes a scoreboard. The reliability and validity of the questionnaire was measured through the scoreboard and its result of measurement show the level of correlation. The reliability and validity of the scale are checked through the scoreboard, and the test results show how much the scale is reliable and valid.

After deciding upon job satisfaction and occupational characteristics, the questionnaire is prepared using different sources like books, journals, the Internet, etc. The inputs from the women who are working in other professions also proved to be fruitful for providing ideas for the preparation of the questionnaire. The checkpoints given by **Srivastava (1988)** are also taken into account to improve the quality of the questionnaire.

After preparing the draft of the scale, it is referred to the available experts in Psychology and Library Science to obtain their opinion. Initially, subject experts are contacted, and the study's purpose is explained to them in brief to ensure co-operation.

The online questionnaire was prepared and sent to the female library professionals working in the different academic and research institutions of Uttar Pradesh, India. There are 109 responses received and the data analysis is based on the received responses.

6.2. Analysis of the Developed scale

The constructed scale is applied to obtain the scores from the sample of female library professionals. The scores are subjected to test the reliability and validity of the laid scale to standardise it. The following section is presented with a detailed methodology of the test conducted. However, the detailed account of statistical analysis has been avoided.

6.2.1. correlation

Correlation is the relationship between two sets of variables. The correlation coefficient is denoted by 'r'. The correlation coefficient ranges from one (- 1) to plus one (+ 1), i.e. $-1 < r < + 1$. The correlation coefficient 'r' is known as Pearson's Correlation Coefficient since Karl Pearson developed it. It is often referred to as Product Moment Correlation to distinguish it from other measures of inter-relationship. This is used to determine the extent of the relationship between the scores on independent variables and the scores on dependent variables of the female library professionals. The formula used is,

$$r = \frac{\sum xy - \frac{(\sum x)(\sum y)}{n}}{\sqrt{\sum x^2 - \frac{(\sum x)^2}{n}} \sqrt{\sum y^2 - \frac{(\sum y)^2}{n}}}$$

Where, r = Coefficient of Correlation between variables x and y.

$\sum x$ = Sum of the scores of variable x. and $\sum y$ = Sum of the scores of variable y.

n = Total number of respondents. $\sum x^2$ = Sum of the square of variable x.

$\sum y^2$ = Sum of the square of variable y.

The positive value of 'r' indicates a tendency of 'x' and 'y' to increase together. The negative value of 'r' indicates a tendency of decrease in one variable with the increase of other variables.

6.2.2. reliability

Reliability is an umbrella term under which different types of scores are assessed. It is up to the test developer and producers to ensure that the appropriate reliability indices are reported. It is up to the test consumers to know how to interpret the presented reliability information. Reliability is used to test the questionnaire.

In essence, the reliability index of a test score indicates its stability. That may mean stability of test score over time (test-retest) for a set of scores on a particular test for a given sample. This means that the same test is given to the same sample at a later point in time (T_2) against a given point of time (T_1). The approach has some obvious advantages. The same sample is drawn up after a gap of definite period. The reliability is confirmed by score stability. The reliability index of a test score indicates its stability.

The same test is repeated twice at two-time intervals and the items (Stimuli) are the same from T_1 to T_2 . This ensures that the same construct is measured the same way both times. The test-retest reliability index is simply the zero-order correlation between the test scores at T_1 and T_2 . (Nurnally and Bernstein, 1994.)

The reliability is calculated by using the following formula where:

Reliability Coefficient (alpha)

$$\alpha = (N)(r_{mean})/[1 + (r_{mean})(N - 1)]$$

Whereas,

N= number of respondents

r_{mean} = Average Inter correlations of respondents

One of the most valuable features of measures of internal consistency is that they can be calculated based on a single sample with just one test administration. This is a very desirable feature that has encouraged its use. During the experiment measure, the reliability was used in two methods. Split-Half correlation between halves of tests is the first measure of internal consistency used. The test is divided into two equal parts, the scores on the two halves are calculated, and then the correlation between the two halves provided the split-half reliability. The other method used is Test-Retest Reliability. The analysis is done using SPSS (Social Science Software Package).

6.2.2.1 Split-Half Reliability

To measure the Split Half reliability test applied to final data (109 Respondents) of the job satisfaction, the individual scores based on questionnaires of 109 respondents have been divided into two halves of 54 questions keeping odd and even criteria.

Number of Respondents	Score of Respondents (Total score of 54 questions)	Score of Respondents (Total score of 27 odd questions)	Score of Respondents (Total score of 27 even questions)
1	165	72	93
2	191	79	112
3	191	87	104
4	171	77	94
5	170	70	100
6	163	65	98
7	141	60	81
8	139	60	79
9	183	95	88
10	172	71	101
11	135	57	78
12	131	50	81
13	179	92	87
14	178	88	90
15	174	86	88
16	180	92	88
17	178	85	93
18	194	98	96
19	198	102	96
20	164	76	88
21	138	61	77
22	170	103	67
23	178	91	87
Number of Respondents	Score of Respondents (Total score of 54 questions)	Score of Respondents (Total score of 27 odd questions)	Score of Respondents (Total score of 27 even questions)
24	170	83	87
25	154	80	74
26	218	112	106

27	143	64	79
28	166	88	78
29	212	103	109
30	207	103	104
31	171	81	90
32	143	76	94
33	155	60	71
34	166	87	79
35	148	64	84
36	172	94	78
37	161	82	79
38	117	58	59
39	116	56	60
40	184	74	110
41	171	92	79
42	171	82	89
43	115	55	60
44	149	77	72
45	139	71	68
46	185	90	95
Number of Respondents	Score of Respondents (Total score of 54 questions)	Score of Respondents (Total score of 27 odd questions)	Score of Respondents (Total score of 27 even questions)
47	116	60	56
48	84	22	62
49	146	76	70
50	201	100	101
51	205	97	108
52	182	97	85
53	115	55	60
54	159	83	76
55	170	84	86
56	174	88	86
57	182	86	96

58	182	79	103
59	182	79	103
60	200	101	99
61	194	100	94
62	182	87	95
63	159	76	83
64	169	69	100
65	233	119	114
66	233	113	120
67	233	117	116
68	225	103	122
69	217	105	112
70	177	83	94
71	180	85	95
72	200	100	100
73	139	69	70
74	149	71	78
75	165	84	81
76	170	81	89
77	169	87	82

81	176	90	86
82	185	82	103
83	194	99	95
84	158	71	87
85	162	73	89
86	231	113	118
87	217	103	114
88	230	115	115
89	235	116	119
90	234	117	117
91	237	116	121
92	153	64	89
93	155	67	88
94	212	105	107
95	137	73	64
96	177	85	92
97	196	89	107
98	153	80	73
99	170	83	87
100	168	90	78
101	174	85	89
102	166	78	88
103	206	100	106
104	179	75	104
105	237	117	120
106	209	99	110
107	175	84	91
108	148	69	79
109	186	91	95

Number of Respondents	Score of Respondents (Total score of 54 questions)	Score of Respondents (Total score of 27 odd questions)	Score of Respondents (Total score of 27 even questions)
78	160	71	89
79	164	80	84
80	137	67	70

Table 2: Score of Total Respondents (109)

To get the correlation, odd and even score were correlated together. The given table shows the correlation value.

Pearson Correlation	Variable- 1	Variable- 2
Variable- 1	1.00	0.645**
Variable- 2	0.645**	1.00

Table 3: Correlations (Split-Half Reliability)

** correlation is significant at the 0.01 level (2-tailed)

The above table shows that the correlation between half 1 and half 2 is 0.645 and is significant (0.000), and the number of respondents (N) is 109.

Split half reliability show significance of correlation which is 0.01. Split half reliability was found to be 0.645. The reliable percentage comes to 98. According to the split-half test of job satisfaction scale is 98% reliable.

Reliability Analysis -Scale (Split-half test)

No of Respondents = 109 and N of Items = 2 (odd and even)

Correlation between forms = 0.6449 and Equal-length Spearman-Brown = 0.7841

Guttman Split-half = 0.7836 and Unequal-length Spearman-Brown = 0.7841

The coefficient of split-half reliability using the Spearman-Brown prophecy formula was worked out. The estimated reliability was found to be 0.645.

6.2.2.2 Test-Retest Reliability:

For determining the test-retest reliability of the job satisfaction scale, the scores of 109 respondents were obtained on 54 questions after a gap of three months from their earlier test score (i.e. T₁ and T₂).

Number of Respondents	Score of Respondents (Total score of 54 questions)	Total score of questions after gap of 3 month (score of respondents)
1	165	153
2	191	155
3	191	212
4	171	137
5	170	177
6	163	196
7	141	153
8	139	170
9	183	168
10	172	174
11	135	166
12	131	206
Number of Respondents	Score of Respondents (Total score of 54 questions)	Total score of questions after gap of 3 month (score of respondents)
13	179	179

14	178	237
15	174	209
16	180	175
17	178	148
18	194	168
19	198	220
20	164	151
21	138	143
22	170	178
23	178	169
24	170	189
Number of Respondents	Score of Respondents (Total score of 54 questions)	Total score of questions after gap of 3 month (score of respondents)
25	154	148
26	218	217
27	143	146
28	166	160
29	212	210
30	207	203

31	171	175
32	143	145
33	155	166
34	166	171
35	148	153
36	172	180
37	161	167
38	117	132
39	116	126
40	184	198
41	171	169
42	171	179
43	115	125
44	149	163
45	139	146
46	185	194
47	116	124
48	84	81
49	146	139
50	201	197
51	205	199
52	182	191
53	115	119
54	159	182
55	170	189
56	174	179
57	182	176
58	182	177
59	182	175
60	200	205
61	194	201
62	182	178
Number of Respondents	Score of Respondents (Total score of 54 questions)	Total score of questions after gap of 3 month (score of respondents)
63	159	167
64	169	198
65	233	231
66	233	230
67	233	233

68	225	220
69	217	215
70	177	178
71	180	187
72	200	199
73	139	149
74	149	156
75	165	172
76	170	181
77	169	179
78	160	168
79	164	171
80	137	146
81	176	180
82	185	187
83	194	201
84	158	167
85	162	180
86	231	233
87	217	215
88	230	233
89	235	233
90	234	233
91	237	231
92	153	168
93	155	157
94	212	220
95	137	140
96	177	180
97	196	200
98	153	169
99	170	180
100	168	167
Number of Respondents	Score of Respondents (Total score of 54 questions)	Total score of questions after gap of 3 month (score of respondents)
101	174	187
102	166	169
103	206	210
104	179	180

105	237	230
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Number of Respondents	Score of Respondents (Total score of 54)	Total score of questions after gap of 3 month (score
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	questions)	of respondents)
106	209	207
107	175	180
108	148	150
109	186	185

Table 4: Total Score of Respondents at the interval of three months

To get the correlation, odd and even score were correlated together. The given table shows the correlation value.

		Variable-1	Variable-2
Variable-1	Pearson Correlation	1	.883**
	Sig. (2-tailed)		.000
	N	109	109
Variable-2	Pearson Correlation	.883**	1
	Sig. (2-tailed)	.000	
	N	109	109

Table 5:

(Test-Retest Reliability)

Correlations

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation between 1 and 2 is 0.883, and the number of respondents (N) is 109.

Reliability Coefficient:

No. of Respondents = 109, No. of Items = 2 and Reliability Coefficient Alpha = 0.938

The significance of correlation comes at 0.01 levels, as shown above. The correlation of 0.01 levels indicates the reliability percentage, which is 98%. According to test-retest, the laid job satisfaction scale is 98% reliable. Under Pearson Product-moment correlation Reliability, the co-efficient is found as 0.938.

6.2.3. Validity Test

Validity refers to the issue of whether the test measures what it is intended to measure. Its reliability constrains the validity of a test. If a test does not consistently measure a construct or domain, it cannot expect high validity coefficients.

The correlation between 1 and 2 is 0.870, and the number of respondents (N) is 109.

Reliability

No. of Respondents = 109, No. of Items = 2, Reliability Coefficient: Alpha = 0.5838

7. Finding

This study suggests that job satisfaction variables are not unidirectional in their effect. The job itself can be a source of both satisfaction and dissatisfaction. Any particular aspect of the job may have more influence on job satisfaction and less influence on job dissatisfaction and vice-versa. The present study results might be helpful to remove job dissatisfaction and enhance job satisfaction of the subjects in particular and the managers in general in the field of librarianship.

After collecting the data from the respondents, the data has been tabulated using SPSS Software. In the present report, the results have been shown in percentages (%).

1. Split-Half Reliability shows the significance of correlation which is 0.01. Split-half reliability is found to be 0.645. The reliability percentage comes to 98%. According to the split-half test of job satisfaction, the scale is 98% reliable.
2. Test-Retest reliability shows the significance of correlation which comes to 0.01 and the reliability coefficient is 0.938. The reliability percentage comes to 98%. According to the test-retest of job satisfaction, the scale is 98% reliable.
3. The validity test shows that significant differences exist at the 0.01 level among female library professionals concerning their validity test on the subsections of the job in general. The reliability Coefficient is 0.5838. The reliability percentage comes to 98%. According to the validity test of job satisfaction, the scale is 98% reliable.

8. Implications of developed scale

Data of level of satisfaction with job characteristics of library and information work was gathered through an online questionnaire from the female professionals working in the academic and research institutions of Uttar Pradesh, India. Analysis of the data reveals that most respondents are satisfied with most of the attributes of their work. The scale has good internal consistency ($\alpha=0.645/0.938$) and response variability (0.5838). The developed scale is a multidimensional construct related to satisfaction with the existing rules, condition of working place, good relation of co-workers, promotion, salary, senior officers and reservation, etc.

There have been studies related to measuring job satisfaction in the library and information science, but it was never attempted to establish a scale for measuring the job satisfaction of female library professionals. The constructed scale can be utilised to measure the level of satisfaction drawn by the female library professionals from their job. Application of the scale over a larger population can help draw various conclusions regarding female library professionals' working environments and identify their expectations and needs to draw professional satisfaction.

9. Conclusion

Female professionals work on both domestic as well as professional fronts simultaneously. Traditionally, it is expected that they should take care of family and other household affairs. However, the changing financial needs of families have also brought them in the role of bread earners for family. Hence, they are sandwiched between the priorities of professional and domestic affairs. Considering the situational difficulties of female professionals, policies are being drafted to protect their professional interests so that their status can be improved and they can also draw reasonable professional satisfaction. Since different professions have different job characteristics, studies must be conducted to identify the expectations and needs of female professionals in their profession. The present study was conducted to develop a scale to measure job satisfaction among female library professionals. In due course, the test for reliability and validity is done with sample data and good internal consistency ($\alpha=0.645/0.938$) and response variability (0.5838) is obtained for the laid scale. The scale is designed for female professional of Library and Information Science, but it can be applied in other professions with necessary corrections as per the professional requirements. The scale can also be used as an indicator to measure the satisfaction of female librarians over some time. The mentioned job characteristics and factors related to the working environment of female library professionals can be guiding parameters for library policymakers to improve the status of female library professionals. The successful demonstration of the scale establishes the need of developing such tools in other professions also. There is much more scope for work so that female professional needs can be adequately represented on the world platform.

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